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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* STEVEN TYSOE, ROBERT ZABALA,  
LUANA IORIO, and AMITABH VERMA

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Appeal 2010-002016  
Application 10/672,623  
Technology Center 1700

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Before CHUNG K. PAK, CHARLES F. WARREN, and  
BEVERLY A. FRANKLIN, *Administrative Patent Judges*.

PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's refusal to allow claims 1 through 7 and 25 through 36, all of the claims pending in the above-identified application.<sup>1</sup> We have jurisdiction under 35 U.S.C. § 6.

### STATEMENT OF THE CASE

The subject matter on appeal "relates to soft magnetic particles" (Spec. 1, para. 0001). Details of the appealed subject matter are recited in representative claims 1, 2, 25, and 31<sup>2</sup> reproduced from the Claims Appendix to the Appeal Brief as shown below:

1. A soft magnetic particle comprising:

an elongated first portion formed of a soft magnetic material; and

a second portion disposed on said first portion in an amount from about 0.05 weight percent to about 1 weight percent, said second portion being formed of an electrically insulating material.

2. The soft magnetic particle as in claim 1, wherein said amount is from about 0.1 weight percent to about 0.15 weight percent.

25. A soft magnetic particle comprising:

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<sup>1</sup> See Appeal Brief ("App. Br.") filed March 5, 2007, 2; and Examiner's Answer ("Ans.") filed February 5, 2010, 3-4.

<sup>2</sup> Appellants have separately argued only claims 1, 2, 25, and 31 (App. Br. 5-9). Therefore, for purposes of this appeal, we select claims 1, 2, 25, and 31 and decide the propriety of the Examiner's §102(e) rejection set forth in the Answer based on these claims alone in accordance with 37 C.F.R. § 41.37(c)(1)(vii).

an elongated first portion formed of a soft magnetic material; and

a second portion disposed on said first portion in an amount from about 0.05 weight percent to about 0.15 weight percent, said second portion being formed of an electrically insulating material.

31. A soft magnetic particle comprising:

a first portion formed of a soft magnetic material; and

a second portion disposed on said first portion in an amount from about 0.05 weight percent to about 0.15 weight percent, said second portion being formed of an electrically insulating material.

As evidence of anticipation of the claimed subject matter, the Examiner relies on the following sole prior art reference<sup>3</sup> at page 4 of the Answer:

Moro                      US 6,940,388 B2                      Sept. 6, 2005

Appellants seek review of the Examiner's rejection of claims 1 through 7 and 25 through 36 under 35 U.S.C. § 102(e) as anticipated by the disclosure of Moro (App. Br. 5).

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<sup>3</sup> Although the Examiner refers to Ryu et al., *Core loss depending on magnetizing angle from easy axis in grain-oriented 3% silicon-iron*, 8 Phys. State. Sol. 1819, 1821 (2004) at pages 4 and 6 of the Answer, the Examiner did not include such reference in the statement of the rejection set forth in the Answer. Accordingly, we will not consider it in determining the propriety of the Examiner's § 102 rejection. *See In re Hoch*, 428 F.2d 1341, 1342 n. 3 (CCPA 1970) ("Where a reference is relied on to support a rejection, whether or not in a 'minor capacity,' there would appear to be no excuse for not positively including the reference in the statement of the rejection.").

RELEVANT FACTUAL FINDINGS, PRINCIPLES OF LAW, ISSUE,  
ANALYSIS, AND CONCLUSION

I. CLAIMS 1 AND 4 THROUGH 7

Appellants have not disputed the Examiner's finding that Moro teaches a dust core consisting of soft magnetic powder and an insulating binder corresponding to the claimed electrical insulating material. (*Compare* Ans. 4 with App. Br. 5-8, Reply Brief ("Reply Br.") filed August 3, 2007, 1-2, and Reply Brief ("Supp. Reply Br.") filed April 5, 2010, 2-3.) Nor have Appellants disputed the Examiner's finding that Moro exemplifies using 1.09 wt. % of the insulating binder and such exemplified amount reads on the claimed amount of "about 1 wt. %" of an electrical insulating material. (*Compare* Ans. 5 with App. Br. 5-8, Reply Br. 1-2, and Supp. Reply Br. 2-3.) Rather, Appellants contend that Moro does not teach the claimed "elongated" soft magnetic particle as required by claims 1 and 4 through 7. (*See* App. Br. 5-8, Reply Br. 1-2, and Supp. Reply Br. 2-3.)

Thus, the dispositive question is: Have Appellants shown reversible error in the Examiner's finding that Moro teaches the claimed "elongated" soft magnetic particle within the meaning of 35 U.S.C. § 102(e)? On this record, we answer this question in the negative.

As correctly found by the Examiner at page 7 of the Answer, Moro discloses the use of flattened soft magnetic powder having an aspect ratio of 5 to 25 (see also Moro, col. 3, ll. 28-43). In other words, the flattened soft magnetic powder taught by Moro has one dimension, i.e., a length or a width, 5 to 25 times longer or extended than another dimension, i.e., a width or a

height.<sup>4</sup> According to the Examiner at page 7 of the Answer, such flattened soft magnetic powder reads on the claimed elongated soft magnetic particle since “[v]arious standard dictionaries, including the American Heritage and the Merriam-Webster Dictionary, define ‘elongated’ as ‘having more length than width.’” Indeed, Appellants’ own Specification also defines elongated soft magnetic particles in various shapes in terms of an aspect ratio (Spec. 4, para. 0020). Thus, we concur with the Examiner that Moro’s disclosure of flattened soft magnetic particles having an aspect ratio of 5 to 25 meets the “elongated” soft magnetic particle recited in claims 1 and 4 through 7 within the meaning of 35 U.S.C. § 102(e).

In reaching this determination, we have carefully considered Appellants’ argument at page 6 of the Appeal Brief that “[t]he commonly understood meaning of the term ‘elongated’ as used in the present application indicates that one dimension of the particle exceeds the other two dimensions.” However, Appellants’ Specification does not require the elongated particles to have the length of one dimension exceeding the lengths of the other two dimensions. (*See* Spec. 4, para. 0020). Rather, the Specification only requires the elongated particles to have the first largest dimension longer than the smallest second dimension. *Id.*

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<sup>4</sup> *See* Scribd Inc., Chemical Dictionary, <http://www.scribd.com/doc/17107219/Chemical-Dictionary> (last visited May 27, 2011); Dictionary.com, Aspect Ratio, <http://dictionary.reference.com/browse/aspect+ratio> (COLLINS ENGLISH DICTIONARY-COMPLETE AND UNABRIDGED (10th ed. 2009)) (last visited May 27, 2011), which indicate that the term “aspect ratio” is known to one of ordinary skill in the art as the ratio of length to width or width to height (one dimension being longer than the other).

Even were we to give the meaning proposed by Appellants, the fact remains that Moro, by virtue of not specifying the length of its flattened soft magnetic particles, teaches that such flattened soft magnetic particles have a length either greater than, smaller than, or identical to the width discussed *supra*. Thus, one of ordinary skill in the art would have readily envisaged the elongated flattened soft magnetic particles from the teaching of Moro within the meaning of 35 U.S.C. § 102(e). *Bristol-Myers Squibb Co. v. Ben Venue Labs, Inc.*, 246 F. 3d 1368, 1380 (Fed. Cir. 2001) (“[T]he disclosure of a small genus may anticipate the species of that genus even if the species are not themselves recited.”); *See also In re Petering*, 301 F.2d 676, 682 (CCPA 1962).

## II. CLAIMS 2, 3, AND 25 THROUGH 36

Appellants contend that Moro does not teach employing an electrically insulating material in the amount of about 0.05 to about 0.15 weight percent recited in claims 2, 3, and 25 through 36 with sufficient specificity to constitute a description within the meaning of 35 U.S.C. § 102(e). (*See App. Br. 8-9, Reply Br. 2-5, and Supp. Reply Br. 3-5.*)

Thus, the dispositive question is: Have Appellants shown reversible error in the Examiner’s finding that Moro teaches an electrically insulating material in the claimed amount of about 0.05 to about 0.15 weight percent with sufficient specificity to constitute a description within the meaning of 35 U.S.C. § 102(e)? On this record, we answer this question in the affirmative.

As acknowledged by the Examiner at page 4 of the Answer, Moro teaches the amount of the insulating binder used in the range of 0.3 to 5.0

weight percent and preferably 0.5 to 3.0 weight percent. According to column 5, lines 13-23, of Moro relied upon by the Examiner, the use of the insulating material in the amount of 0.3 weight percent or less causes insufficient insulation, thus increasing eddy current loss and core loss while the use of the insulating material in the amount of 5.0 weight percent or more decreases the magnetic permeability, the magnetic flux density, and the mechanical strength. (*See also* Ans. 5.) Nowhere do the teachings of Moro relied upon by the Examiner describe employing the claimed amount of the insulating binder with the requisite specificity for anticipation. (*See* Ans. 4-8.) Thus, we concur with Appellants that Moro does not teach an electrically insulating material in the claimed amount of about 0.05 to about 0.15 weight percent with sufficient specificity to constitute a description within the meaning of 35 U.S.C. § 102(e). *Atofina v. Great Lakes Chem. Corp.*, 441 F.3d 991, 999 (Fed. Cir. 2006) (When a prior art reference teaches a broad range that encompasses the claimed significantly narrow range, “no reasonable fact finder could conclude that the prior art describes the claimed range with sufficient specificity to anticipate this limitation of the claim.”); *In re Schaumann*, 572 F.2d 312, 315 (CCPA 1978) (The prior art reference must identify each and every element as set forth in the claim “with sufficient specificity to constitute a description thereof within the purview of 35 U.S.C. § 102[(e)]”).

In reaching this determination, we have carefully considered the Examiner’s reliance on *In re Nehrenberg*, 280 F.2d 161, 163-64 (CCPA 1960). However, the Examiner has not shown that *Nehrenberg* is applicable to the present circumstance. As is apparent from the holding of *Nehrenberg*, 280 F.2d at 163-64, the Examiner can rely on the non-preferred or undesired



embodiment explicitly or implicitly taught by a prior art reference to establish anticipation within the meaning of 35 U.S.C. § 102(e). However, such unpreferred or undesired embodiment must be within those claimed by Appellants. *Nehrenberg*, 280 F.2d at 164 (explaining that the carbon content of at least 0.05 percent implicitly taught by a prior art reference is within the claimed carbon requirement of 0.05 percent or more). In other words, even the prior art disclosure of undesired embodiments or undesired percentages of ingredients is not exempted from the sufficient specificity requirement enunciated in *Schaumann* and *Atofina* in establishing anticipation within the meaning of 35 U.S.C. § 102(e).

#### ORDER

In view of the foregoing, it is

ORDERED that the decision of the Examiner to reject claims 1 and 4 through 7 under 35 U.S.C. § 102(e) as anticipated by the disclosure of Moro is AFFIRMED;

FURTHER ORDERED that the decision of the Examiner to reject claims 2, 3, and 25 through 36 under 35 U.S.C. § 102(e) as anticipated by the disclosure of Moro is REVERSED; and

FURTHER ORDERED that no time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

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